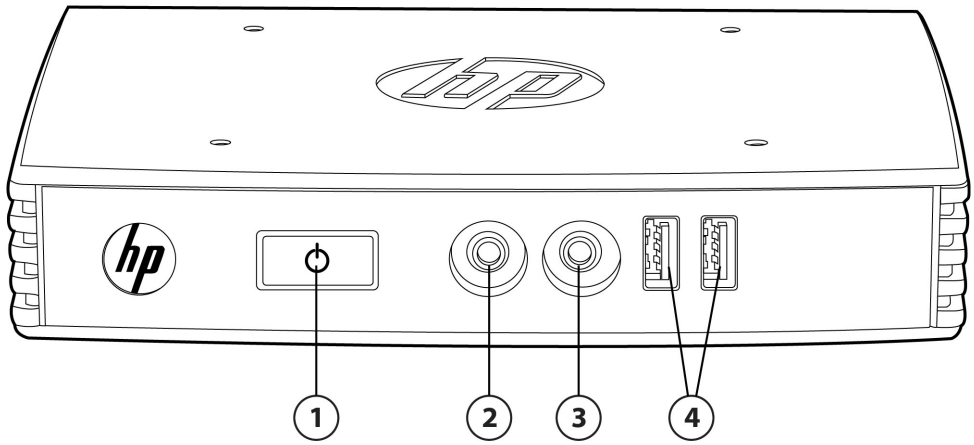
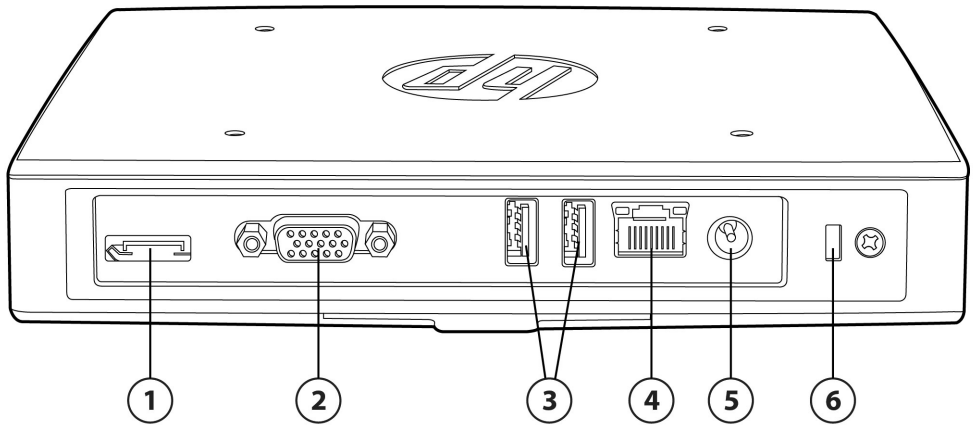
Overview



FRONT

1. Power button
2. Headphone
3. Microphone
4. USB 2.0



BACK

1. DisplayPort 1.1a
2. VGA
3. USB 2.0
4. RJ-45 NIC
5. AC power
6. Security cable slot

Hardware features:

- Texas Instruments TMS320DM8148 ARM® Cortex™-A8 (1 GHz, 256 KB L2 cache, 1 core) processor with Neon extensions
- 1 GB 400 MHz DDR3 SDRAM

Overview

- 4 GB eMMC Flash memory
- 10/100/1000 Gigabit Ethernet (RJ-45)
- Supports up to 2 displays, 1 VGA, 1 DisplayPort 1.1a
- Supports resolutions up to 1920x1200 (60Hz) for single and dual displays. Actual performance and resolutions available will vary depending on client virtualization protocol being used and content being displayed.
- 4 USB 2.0 ports: 1 for keyboard, 1 for mouse, 2 for other USB devices
- Low Halogen
- Energy Star® qualified and EPEAT® Gold registered where applicable/supported. See http://www.epeat.net for registration status by country.
- Contains over 10% post-consumer recycled plastics (by weight)

Software features for HP Smart Zero Technology:

- Smart Client Experience
  - Fast boot, quick connect and responsive interaction
  - User boots into their host environment with no local desktop complexity
  - User preferences can be set and retained without leaving the login screen
  - On-screen controls are streamlined to eliminate desktop clutter
  - Built-in flexibility to allow switching virtualized environment via a few mouse clicks
- Microsoft Optimization:
  - Leverages both ARM and DSP capabilities of the Texas Instruments TMS320DM8148 delivering high performance end-user experience using RDP and RemoteFX
  - Delivers a full Windows experience
  - Provides USBR and MMR capabilities with RemoteFX
- Citrix Optimization:
  - Capitalizes on the ARM capabilities with Neon extensions of the Texas Instruments TMS320DM8148 delivering high performance end-user experience using ICA and HDX
  - Leverages Citrix Receiver for ARM
  - Plug it into a XenDesktop enabled network and you get the full HDX experience
- PC over Internet Protocol (PCoIP) Optimization:
  - Exploits both ARM and DSP capabilities of the Texas Instruments TMS320DM8148 delivering high performance end-user experience using PCoIP
  - Implements all existing PCoIP protocol capabilities
  - Fully interoperable with all PCoIP endpoints
  - Delivers the best possible experience to every user including those with limited bandwidth
- Automatic Intelligence
  - Intelligence is automatically inherited by Smart Zero Client Services running on the backend server
  - Support for Broadcast, or DHCP Tag enables discovering backend server
  - Leverages remote intelligence resources to minimize desktop overhead
  - Installation wizard establishes desktop environment for all devices in minutes
  - Automatic broadcast system finds Smart Client Service & delivers user desktop in seconds
  - Profile editor allows connection changes to be made in just a few clicks
  - The remote intelligence allows your client & host to put performance where it counts!
  - Seamless updates from the cloud allow users work instead of waiting for installs
- Uncompromised IT
  - Unique device purposing, choose from Citrix ICA/HDX, Microsoft RDP/RFX, VMware Horizon View through RDP or PCoIP
  - Smart Client Service integrates with host to maintain a clean IT environment
  - Your desktop attack surface is minimized with no local apps
  - Integration with HP Device Manager to enable full Smart Zero Client monitoring and management from a single tool
- Console visibility, asset information and reboot through HP Device Manager
- Improved Quality of Experience for End User using HP Velocity

Overview

- HP Velocity intelligently reduces network packet loss and retransmissions providing a better experience for the end user
- HP Velocity enables IT managers to monitor network activity and optimize end-user experience
- Available only on HP thin client

Warranty:
HP Total Care Warranty and Services: limited three-year hardware warranty in most regions. HP Care Pack Services extend service contracts beyond your standard warranties. For more details visit: http://www.hp.com/go/lookuptool.

Technical Specifications

OPERATING SYSTEM

HP Smart Zero Technology

PROCESSOR

Texas Instruments TMS320DM8148 ARM® CortexTM-A8 (1 GHz, 256 KB L2 cache, 1 core)

- 1-GHz ARM® Cortex™-A8 RISC MPU
- TMS320C674x™ Floating-Point Digital Signal Processor (DSP)
- 256 KB L2 Unified Mapped RAM/Caches
- HD Video Processing Subsystem (HDVPSS)

MEMORY

Flash (boot drive) memory	4 GB eMMC
System memory	1 GB DDR 3 400 MHz SDRAM

DISPLAY

Supports up to 2 displays; 1 VGA, 1 DisplayPort 1.1a with resolutions up to 1920x1200 for single or dual displays. Actual performance and resolutions available will vary depending on client virtualization protocol being used and content being displayed. CRT displays with resolutions greater than 1600x1200 (60Hz) are not compatible with the HP t410 Smart Zero Client.

INPUT/OUTPUT (peripheral support)

Keyboard	USB
Mouse	USB

AUDIO

Output	Internal piezo-electric stereo speaker (only for system beep functions) 1/8-inch mini-jack, 16, 20, 24, or 32-bit stereo, 8-96 kHz sample rate
Input	1/8-inch microphone mini-jack, 16, 20, 24, or 32-bit stereo, 96 kHz sample rate

HARDWARE SECURITY

Security lock slot (cable lock sold separately)
100 mm VESA mount

Technical Specifications

NETWORKING

Hardware networking

10/100/1000 Gigabit Ethernet (RJ-45)
Wake on LAN (WOL)
TCP/IP with DNS and DHCP
UDP

Software networking

Point-to-Point Protocol (PPP) supported through PPTP VPN only
Point-to-Point over Ethernet (PPPoE) supported through PPTP VPN only
Point-to-Point Tunneling Protocol (PPTP)
Network Time Protocol (NTP)

I/O PORTS & CONNECTORS

4 USB 2.0 (two on Front, two on Rear)
1 NIC (RJ-45)
1 Microphone
1 Headphone
1 Power Connector

NOTE: : 2 of the 4 USB 2.0 ports are used for keyboard and mouse.

SERVER OS COMPATIBILITY

Client Virtualization Protocol	Server OS Compatibility
RDP with RemoteFX	Windows Server 2008 R2 SP1 or later
ICA with HDX	Windows Server 2008 R2 SP1 or later
VMware Horizon View through RDP	Windows Server 2008 R2 SP1 or later
PCoiP	VMware Horizon View and ESXi 5 or later

SOFTWARE for HP t410 Smart Zero Client

Technical Specifications

Host Environment		HP Smart Zero Technology
Microsoft	RemoteFX (RFX)	✓
	RDP	✓
Citrix	HDX	✓
	ICA	✓
VMware Horizon View	RDP	✓
	PCoIP	✓
Protocol Clients		**Smart Zero**
Citrix Receiver		12.1.4
Citrix Online Plugin		12.1.4
Microsoft Remote Desktop Client		
VMware Horizon View Client		1.7
HP TeemTalk Terminal Emulator		
Free RDP		1.0
Browser Support		**Smart Zero**
Mozilla Firefox		15
Security		**Smart Zero**
Read Only Operating System		
802.1x		✓
Enhanced Write Filter and File-Based Write Filter		
Microsoft Firewall		
Session brokers		**Smart Zero**
Citrix XenDesktop		✓
VMware Horizon View		1.7
Management Tools		**Smart Zero**
HP Device Manager		✓
HP Smart Client Services		✓
Additional Components		**Smart Zero**
HP Velocity		✓

LANGUAGES

English, French, German, Spanish, Traditional Chinese, Simplified Chinese, Japanese, and Korean

DIMENSIONS (WxDxH)

7.28 x 5.83 x 1.28 in
14.8 x 18.5 x 3.2 cm

Technical Specifications

WEIGHT

1.4 lbs (.638 kg)

POWER

24 W AC adapter (12V DC)
Worldwide auto-sensing 100-240 VAC, 50-60 Hz

ENVIRONMENTAL

Operating temperature range	Standard 50° to 104° F (10° to 35° C)
Non-operating temperature range	22° to 140° F (-30° to 60° C)
Humidity	Condensing 10% to 90% Non-condensing 5% to 95% non-condensing

NOTE: Specifications are at sea level with altitude derating of 1° C/300m (1.8° F/1000ft) to a maximum of 3 Km (10,000 ft), with no direct, sustained sunlight. Upper limit may be limited by the type and number of options installed.

REGULATORY COMPLIANCE

Ergonomics	German ZH1/618; EN29241-3, approved
Safety	UL 60950-1; CSA C22.2 No. 60950-1-07; IEC 60950-1; EN60950-1; EK1-ITB2000
Electro-Magnetic Compatibility	EN 55022; EN55024; FCC; EN 61000-3-2; EN61000-3-3; CFR 47, Part 15; VCCI

PART NUMBERS

H2W22AA	HP t410 Smart Zero Client with Teradici Optimized PCoIP
H2W22AT	HP t410 Smart Zero Client with Teradici Optimized PCoIP
H2W23AA	HP t410 Smart Zero Client with, Citrix ICA/HDX, Microsoft RDP/RFX, and VMware Horizon View through RDP or PCoIP
H2W23AT	HP t410 Smart Zero Client with, Citrix ICA/HDX, Microsoft RDP/RFX, and VMware Horizon View through RDP or PCoIP

SUPPORTED PRINTERS

The following printers have been tested and confirmed to work correctly with the t410 Smart Zero Client.

	Protocol			
Printer	**RDP**	**Citrix**	**VMware**	**PCoiP**
LaserJet, Single functional:				
LaserJet P2035	yes	yes	yes	yes
LaserJet P2055d	yes	yes	yes	yes
InkJet, Single functional:				
HP OfficeJet Pro 8100	yes	yes	yes	yes
HP OfficeJet 7000 wide e809a	yes	yes	yes	yes
InkJet, All in One:				
HP Photosmart ink advance k510	yes	yes	yes	yes
HP Photosmart C8180 series	yes	yes	yes	yes

As additional printers are tested, this table will be updated.

ECO-LABEL CERTIFICATIONS & DECLARATIONS

This product has received or is in the process of being certified to the following approvals and may be labeled with one or more of these markets:

- Energy Star® qualified and EPEAT® Gold registered where applicable/supported. See http://www.epeat.net for registration status by country.
- Low Halogen product

ENERGY CONSUMPTION (Idle mode data are ready)

	115 VAC (60Hz)	230 VAC (50Hz)	100 VAC (60Hz)
Idle State:	9.778 W	9.899 W	9.865 W
Off Mode:	0.2009 W	0.2556 W	0.2005 W

NOTE: This product is in compliance with US executive order 13221, WOL (wake on LAN) disabled. Off Mode measurements are made with WOL disabled.

NOTE: The actual power consumption at your location could vary and is dependent on many factors including but not limited to software load on the thin client, attached peripherals, and environmental factors.

HEAT DISSIPATION

	115 VAC (60Hz)	230 VAC (50Hz)	100 VAC (60Hz)
Idle State:	30.78 BTU/hr	30.98 BTU/hr	31.46 BTU/hr
Off Mode:	4.67 BTU/hr	4.78 BTU/hr	3.99 BTU/hr

NOTE: Heat dissipation is calculated based on the measured watts, assuming the service level is attained for one hour

BATTERIES

This product complies with ISO standards:

- EU Directive 91/ 157/ EEC
- EU Directive 93/ 86/ EEC
- EU Directive 98/ 101/ EEC

Batteries used in the product do not contain:

- Mercury greater the 5ppm by weight
- Cadmium greater than 10ppm by weight
- Lead greater than 4000ppm by weight.
- Battery size: CR2032 (coin cell)
- Battery type: Lithium

RECYCLED MATERIAL

Product

- This product containsat least 10% recycled materials (by weight).
- This product is at least 90% (by weight) recyclable when disposed of properly at end of life.

Technical Specifications – Environmental Data

Packaging

- Bamboo packaging material contains at least 30% (by weight) post-consumer recycled content.
- The corrugated paper packaging materials contains at least 80% (by weight) post-consumer recycled content.
- The packaging for this product is 100% (by weight) recyclable when disposed of properly.

RoHS COMPLIANCE

Hewlett-Packard is committed to compliance with all applicable environmental laws and regulations, including the European Union Restriction of Hazardous Substances (RoHS) Directive. HP's goal is to exceed compliance obligations by meeting the requirements of the RoHS Directive on a worldwide basis. From July 1, 2006, RoHS substances will be virtually eliminated (virtually = to levels below legal limits) for all HP electronic products subject to the RoHS Directive, except where it is widely recognized that there is no technically feasible alternative (as indicated by an exemption under the EU RoHS Directive).

MATERIAL USAGE

This product does not contain any of the following substances in excess of regulatory limits (refer to the HP General Specification for the Environment at: http://www.hp.com/hpinfo/globalcitizenship/environment/supplychain/gen_specifications.html):

- Asbestos
- Certain Azo Colorants
- Certain Brominated Flame Retardants - may not be used as flame retardants in plastics
- Cadmium
- Chlorinated Hydrocarbons
- Chlorinated Paraffins
- Formaldehyde
- Halogenated Diphenyl Methanes
- Lead carbonates and sulfates
- Lead and Lead compounds
- Mercuric Oxide Batteries
- Nickel - finishes must not be used on the external surface designed to be frequently handled or carried by the user.
- Ozone Depleting Substances
- Polybrominated Biphenyls (PBBs)
- Polybrominated Biphenyl Ethers (PBBEs)
- Polybrominated Biphenyl Oxides (PBBOs)
- Polychlorinated Biphenyl (PCB)
- Polychlorinated Terphenyls (PCT)
- Polyvinyl Chloride (PVC) - except for wires and cables, and certain retail packaging has been voluntarily removed from most applications.
- Radioactive Substances
- Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide (TBTO)

Packaging

HP follows these guidelines to decrease the environmental impact of product packaging:

- Eliminate the use of heavy metals such as lead, chromium, mercury and cadmium in packaging materials.
- Eliminate the use of ozone-depleting substances (ODS) in packaging materials.
- Design packaging materials for ease of disassembly.
- Maximize the use of post-consumer recycled content materials in packaging materials.
- Use readily recyclable packaging materials such as paper and corrugated materials.

- Reduce size and weight of packages to improve transportation fuel efficiency.
- Plastic packaging materials are marked according to ISO 11469 and DIN 6120 standards.

End-of-life Management and Recycling

Hewlett-Packard offers end-of-life HP product return and recycling programs in many geographic areas. To recycle your product, please go to: http://www.hp.com/recycle or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.

The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: http://www.hp.com/go/recyclers.

These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

Hewlett-Packard Corporate Environmental Information

For more information about HP's commitment to the environment:

Global Citizenship Report:
http://www.hp.com/hpinfo/globalcitizenship/gcreport/index.html
Eco-label certifications:
http://www.hp.com/hpinfo/globalcitizenship/environment/productdesign/ecolabels.html
ISO 14001 certificates:
http://www.hp.com/hpinfo/globalcitizenship/environment/operations/envmanagement.html

Options and Accessories (sold separately)

		Part Number
Accessories	HP Quick Release Kit	EM870AA
	HP Integrated Work Center Stand	GN783AA
	HP Keyed Cable Lock (Low Halogen)	BV411AA
	HP LCD Speaker Bar	NQ576AA
Input Devices	HP USB Standard Keyboard	DT528A
	HP USB Smartcard Keyboard	ED707AA
	HP USB CCID Smartcard Keyboard (Low Halogen)	BV813AA
	HP USB 2-Button Optical Scroll Mouse	DC172B
Security	HP USB Smartcard Keyboard	ED707AA
	HP USB CCID Smartcard Keyboard (Low Halogen)	BV813AA
	Gemalto PC USB-TR Card Reader[1]	HWP117685
	Gemalto .NET v2+ Smart Card[1]	HWP115303B HWP115647C
	SCM SCR331 USB Smart Card Reader[1]	904054
	HP Keyed Cable Lock (Low Halogen)	BV411AA
Care Pack Services[2]	9x5 Next-Business-Day Advanced Exchange - 3 Years[3]	331653-001; U4847E
	9x5 Next-Business-Day On-Site Coverage - 3 Years[3]	331655-001; U4849E
	Hardware Installation[3]	331686-001; UJ865E

[1] Option, drivers, warranty, and support are available directly from third party.
[2] Service levels and response times for HP Care Pack Services may vary depending on your geographic location. Restrictions and limitations apply. For details, visit: www.hp.com/go/carepack.
[3] U4847E is available in all regions; UJ865E is available in Asia-Pacific/Japan. U4849E is available in Latin America and Asia-Pacific/Japan.

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